

April 13, 1989
NARRATIVE FOR
MEADE COUNTY, SOUTH DAKOTA
OIL & GAS DEVELOPMENT POTENTIAL MAP

INTRODUCTION

Meade County lies west of the Missouri River in South Dakota. The topography in this county ranges from the mountainous terrain of the Black Hills in the west, to the rolling plains in the eastern portion of the county. Currently, there are no producing oil and gas wells in this county. Currently, there are no producing oil and gas wells in this county. Geologically, the west portion of Meade County is on the northeastern flank of the Black Hills uplift. The south-central portion of the Williston Basin runs through the east half of the county.

OCCURRENCE POTENTIAL

Oil & gas occurrence potential in Meade County ranges from high to very low. Regional geologic mapping (Mallory, 1972, p. 56) indicates the eastern part of the county contains more than 5,000 feet of sedimentary rocks. Camac Exploration drilled the 27-1 Nelson well (T. 10 N., R. 14 E., sec. 27) that penetrated 6,880 feet of sedimentary rock before drilling into Precambrian gneiss. This is the same package of rocks which contain source beds and producing reservoirs in the adjacent Williston Basin. Therefore, this portion of the county has been classified as high occurrence potential.

The central part of the county has been classified moderate occurrence potential because of an average sedimentary rock thickness of only 2,000-5,000 feet with source beds and reservoir rock similar to the adjacent Williston Basin.

The southwestern part of Meade County contains less than 2,000 feet of sedimentary rocks and is classified low and very low occurrence potential.

DISCUSSION OF DEVELOPMENT POTENTIAL RATINGS

No part of Meade County has been designated as high development potential, because there are no producing oil and gas wells in the county.

Most of Meade County is rated moderate development potential. As can be seen on the development potential map, the axis of the Williston Basin runs through the eastern part of the county. Oil shows have been encountered in the Pennsylvanian Minnelusa and Ordovician Red River Formation in two wells. Wildcatting and some very limited development may occur in the Minnelusa and Red River Formations in this county over the next 15 years.

The southwestern townships of the county are rated low development potential because of the thin sedimentary cover, and the sparse data from oil & gas drilling in this area. Widely-spaced wildcatting may occur in this area in the next 15 years.

The extreme southwestern township of the county is classified very low development potential because of the complete lack of sedimentary rocks at the surface due to the outcrop of the Black Hills crystalline rocks. No wildcatting is expected to occur here in the next 15 years.

REFERENCE CITED

Mallory, W.W. (ed.), 1972, Geologic atlas of Rocky Mountain Region: Rocky Mountain Association of Geologists, p.56.